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Subject: Fw: End of Day Status Report, R/V Brooks McCall 5/19/10

Date: 05/20/2010 08:02 AM

Attachments: 05 19 10 Cruise 3 Sampling Tracking Master.xls

05 19 10 Sample Inventory.doc

05 19 10 LISST.doc

05 19 10 DO Comparisons Report.pdf 05 19 10 C3 Fluorometer Report.pdf

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---- Forwarded by John Martin/R6/USEPA/US on 05/20/2010 07:54 AM -----

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Date: 05/20/2010 06:34 AM

Subject: End of Day Status Report, R/V Brooks McCall 5/19/10

End of Day Status Report, R/V Brooks McCall 5/19/10.

- Five sampling stations were occupied today according to the following rationale. The sampling strategy adopted for 5/19 was designed to characterize the deep water plume found to have travelled in a southwesterly direction from the spill site according to fluorescence measurements taken on 5/17. We noted that the dispersant injection had been discontinued on 5/17, and hypothesized that the resultant deep plume was discontinuous and may have diminished in size in the intervening period.
- The first sampling site occupied on 5/19, (B29), corresponded to site ref B27, previously sampled on 5/17 and situated 8 Km from the spill site.
- The fluorescence profile from this sampling array indicated a significantly diminished plume on 5/19 compared with 36h earlier. Based on this observation it was decided to follow the plume away from the spill site. Accordingly the next site occupied (B30) was 4Km further out along the SW transect 12Km from the spill site, halfway between the two furthest transect sites (8Km, 16Km) sampled on 5/17. The fluorescence profile for this site showed a fluorescence signature very similar to the previous (8Km) sample. Both showed a single peak at the 1000m mark, indicating that the plume had narrowed vertically, with no signature below 1100m. We could not definitively conclude that we were seeing the tail of a discontinuous plume moving away from the spill site, although this was feasible.

- We opted to investigate the width of the plume by tracing 150 arc (from SW transect) to the SE, maintaining a 12Km radius from the spill site.
 Sampling station B31 was established at the intersection of the arc and 12Km radius. No fluorescence signal was apparent at this site, although there was some evidence of oil droplets in surface samples from this site.
- Microscopic examination showed 1-3mm irregular 'particles' apparently comprised of small conglomerations of oil droplets. In the absence of significant fluorescence at depth it was, therefore, decided to trace a 15o arc to the NW of the transect. Station B32 was established at the intersection of this arc at the 12Km radius from the spill site.
- Station specific information on samples is shown in attachment 1. This spreadsheet only contains information from the current cruise. To facilitate cross-referencing graphic attachments 2 and 3 include sites visited on previous cruises, but with sampling station from this cruise (3) highlighted. CTD data from this cruise are summarized in attachment 4.
- En route between sites B30 and B31, and between sites B31 and B32 attempts were made to deploy the 7 Turner C3 Towfish Fluorometer. 20 min tows were made at a speed of 2 knots in each case. A data transfer problem in the first of these trials was resolved in time for the second tow, during which the instrument performed satisfactorily. Data are summarized in attachment 5.
- The colorimetric method for dissolved oxygen analysis employing a LaMotte 5860 Field Kit continued to give spurious results that were incompatible with results from the CTD data and the Extech DO700 hand-held probe, which was applied to each sample as it was retrieved. A correlation among these dissolved oxygen analytical techniques is shown in graphical format as attachment 6. While there is good correlation between CTD and hand-held probe data, the colorimetric method apparently gives low dissolved oxygen results, which become more evident at higher dissolved oxygen levels. As a result, the colorimetric method was discontinued and dissolved oxygen measurements continued using the CTD and the Extech hand-held probe.
- A summary of particulate analyses (LISST) is shown in attachment 7. No data are available from the towed LISST as this instrument was removed on 5/18 just before departing Port Fourchon for redeployment to another vessel. As in the previous cruise there was good correlation between LISST data and fluorometry, particularly with surface samples. Culture of organisms (rotifers) for bioassays was initiated. These will not be ready for assay unitl tomorrow pm. A trial test was performed on a single surface sample (showing oil droplets) using organisms from cruise 2.
- On 5/19/2010, the sampling team collected 59 1 liter amber bottle water quality samples (42 for BP and 17 for NOAA), 86 40 ml VOA samples pre-acidified with HCl (40 for BP and 40 for NOAA) and 5 8oz glass bottle samples (2 for BP and 3 for NOAA). The remaining inventory is shown in attachment 8. An urgent request for supplies was transmitted today for 500 scintillation vials (foil caps) for fluorometry associated with the LISST particle analyzer and further analyses at the DFO. Also requested is a

follow-up on the status of delivery of fixed wavelength fluorometers which will enhance the particulate analysis (see attachment 7). A request for 10 additional Rototox test kits was sent today. We probably have enough for this cruise and the next, but delivery would be required by next week before toxicity testing would be compromised.

David Wright PhD EM&A for BP

Summary of attachments:

(We are waiting for files 2, 3, and 4)

- 1. An Excel spreadsheet containing station specific information on samples.
- 2. A shape file of our station locations which can be imported to mapping software.
- 3. A pdf graphic based on the shape file showing our stations.
- 4. CTD plots for today's stations.
- 5. A summary of data from Turner C3 towed fluorimeter deployment.
- 6. An analysis of oxygen analytical techniques.
- 7. A summary of the LISST results.
- 8. Equipment and inventory status









Faithfully yours Steve

"Frequently, my thoughts get bored and walk down to my mouth. Often, this is a bad thing."

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